BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Health and Social Care Pearson BTEC International Level 3 Foundation Diploma in Health and Social Care Pearson BTEC International Level 3 Diploma in Health and Social Care Pearson BTEC International Level 3 Extended Diploma in Health and Social Care (Health Studies)
Unit number and title	**Unit 13: Microbiology for Health Science**
Learning aims	Learning aim A: Understand the concepts of microbiology relevant to health science Learning aim B: Examine the role of micro-organisms in human health and disease Learning aim C: Investigate the impact of diseases and their treatment in a global context Learning aim D: Investigate the health benefits of micro-organisms.
Assignment title	**Micro-organisms, good or bad?**
Assessor	
Issue date	
Hand in deadline	
Vocational Scenario or Context	You are training to be a biomedical scientist on a Practitioner Training Programme (PTP). You have been asked by your mentor to conduct research on the requirements to thrive, for four, named micro-organisms. You must then produce a report based on your findings.

Task 1	You must select **four** different micro-organisms to base your notes on. You are going to produce annotated diagrams and notes about these micro-organisms. These must cover the following: ● for two of the selected micro-organisms, you must justify the methods that are used to control them and give reasons why these methods are used and not others. ● for all the selected micro-organisms you must analyse their structures and reproductive methods and the methods of controlling them. You will also explain the requirements these micro-organisms need to survive and how these requirements could be controlled.

Checklist of evidence required	Research report
Criteria covered by this task:	
Criteria reference	To achieve the criteria you must show that you are able to:
A.D1	Justify the methods used to control two different micro-organisms.
A.M1	Analyse the structure of selected micro-organisms and their reproductive methods, and how their transmission can be controlled.
A.P1	Explain the requirements that selected micro-organisms need to thrive and how these requirements can be controlled.
Task 2	You now need to produce a second report based on your individual research, into the positive and negative aspects of human interaction with micro-organisms. Your report should include: ● an evaluation of the reasons for the spread of diseases becoming more global, and the consequences of that ● an analysis of the terms used in epidemiology showing how they apply to the transmission of infectious diseases and human immunity ● you need to compare the transmission routes of at least two micro-organisms involved in human disease and relate these to specific infections. Include an explanation of how the immune system protects the human body form harmful micro-organisms ● an assessment of the effectiveness of factors involved in controlling the diseases globally and a discussion of the factors that may be involved in the control of separate outbreaks of two different diseases. Explain the consequences of a disease outbreak, for four different named diseases, covering the effects on individuals, families and so on, and whether tested and untested drugs will be used as part of the controls, and the ethical dilemmas this raises.

Checklist of evidence required	Report
Criteria covered by this task:	
Criteria reference	To achieve the criteria you must show that you are able to:
BC.D2	Evaluate the reasons for and consequences of the spread of diseases becoming more global.
B.M2	Analyse the terms used in epidemiology to show how they apply to the transmission of infectious diseases and human immunity.
C.M3	Assess the effectiveness of the factors involved in controlling diseases globally.
B.P2	Compare the transmission routes of micro-organisms involved in human diseases and relate them to specific infections.
B.P3	Explain how the immune system is involved in protecting the human body from harmful micro-organisms.
C.P4	Discuss the factors that might be involved in the control of separate outbreaks of two different diseases.
C.P5	Explain the consequences of a disease outbreak, citing examples in each case.
Task 3	Your final report will be about the positive and negative effects of micro-organisms, as concluded by your individual research. This must include: ● an evaluation of the positive and negative effects of the interrelationship between humans and micro-organisms, this must refer to the micro-organisms you have researched throughout the unit, including the rest of this task. ● an analysis of the social benefits to humans of at least three micro-organisms, and this must outline how micro-organisms are used by two different commercial enterprises.
Checklist of evidence required	Report

Criteria covered by this task:	
Criteria reference	To achieve the criteria, you must show that you are able to:
D.D3	Evaluate the positive and negative effects of the interrelationship between humans and micro-organisms.
D.M4	Analyse the social benefits to humans of three micro-organisms.
D.P6	Outline how micro-organisms are used by two different commercial enterprises.
Sources of information to support you with this Assignment	**Websites:** https://microbiologysociety.org/static/uploaded/23cbf9c5-f8c8-4f91-b092a4ad819e6357.pdf http://www.microbiologyonline.org.uk/about-microbiology/introducing-microbes http://www.nhs.uk/Conditions/Pages/BodyMap.aspx?Index=A
Other assessment materials attached to this Assignment Brief	NA

Note: This unit is about micro-organisms, both their positive and negative contributions to human health. It is **not** a practical unit and there is no requirement for the learner to have carried microbiological techniques themselves.

Task 1 is about the growth of microbes in general.

Task 2 is about the negative effect of microbes.

Task 3 is mainly about the positive use of microbes however, to gain D.D3, the learner has to use information they have gained earlier in the unit to evaluate **both** the positive and negative effects of the interrelationships with micro-organisms.